

Claims

1. An image display apparatus comprising
light emitting elements corresponding to a plurality of color tones
disposed in each pixel, wherein,
5 a main current for luminance control is supplied to a spontaneous light
emitting element corresponding to one of the plurality of color tones in a pixel, and
a correcting current for chromaticity correcting is added to other light emitting
element corresponding to at least one of the other color tones in the pixel,
wherein,
10 the main current and the correcting current are controlled by a pulse
driving period.
2. The image display apparatus according to claim 1, wherein, each pixel is
composed of three color tones of light emitting elements, and
two color tones of light emitting elements other than the light emitting
15 element corresponding to the color tone to be performed chromaticity correcting
emit a small amount of light to correct a dispersion of chromaticity of light emitting
elements corresponding to each color tone.
3. The image display apparatus according to claim 2, wherein, the three color
tones of light emitting elements, of which each pixel is composed, are red, blue
20 and green.
4. The image display apparatus according to claim 1, wherein, the main current
and the correcting current are controlled by time-sharing.
5. The image display apparatus according to claim 2, wherein, the main current
and the correcting current are controlled by time-sharing.
- 25 6. The image display apparatus according to claim 3, wherein, the main current

and the correcting current are controlled by time-sharing.

7. The image display apparatus according to claim 1, wherein, amount of light emission by the main current and the correcting current is adjusted by controlling the number of pulse driving or the ratio of frequency of reference clocks (widths of reference clock pulses).

8. The image display apparatus according to claim 2, wherein, amount of light emission by the main current and the correcting current is adjusted by controlling the number of pulse driving or the ratio of frequency of reference clocks (widths of reference clock pulses).

9. The image display apparatus according to claim 3, wherein, amount of light emission by the main current and the correcting current is adjusted by controlling the number of pulse driving or the ratio of frequency of reference clocks (widths of reference clock pulses).

10. The image display apparatus according to claim 4, wherein, amount of light emission by the main current and the correcting current is adjusted by controlling the number of pulse driving or the ratio of frequency of reference clocks (widths of reference clock pulses).

11. An image display apparatus comprising

light emitting elements corresponding to RGB of color tones disposed in each pixel, wherein,

in light emission of each light emitting element L_i ($i = R, G, B$) based on image data D_i ($i = R, G, B$) in respective pixels, amount of light emission $A_k + A'_k$ is controlled by the number of pulse driving or the ratio of frequency of reference clocks (widths of reference clock pulses), so as to add amount of light emission A'_k ($k \neq i$) of at least one of the other light emitting elements L_k ($k \neq i$) in the

respective pixels based on amount of light emission A_i ($i = R, G, B$) of the light emitting element L_i to amount of light emission A_k ($k \neq i$) of the light emitting elements L_k ($k \neq i$) based on image data D_k ($k \neq i$).

12. The image display apparatus according to claim 11, wherein, the amount of
5 light emission A'_k ($k \neq i$) of the light emitting elements L_k based on amount of light emission A_i ($i = R, G, B$) of the light emitting element L_i is set so that chromaticity of each pixel based on maximum value of the image data D_i ($i = R, G, B$) is corrected to reference chromaticity.

13. A control method of an image display apparatus with light emitting elements
10 corresponding to a plurality of color tones disposed in each pixel, in which a main current for luminance control is supplied to a spontaneous light emitting element corresponding to one of the plurality of color tones in a pixel and a correcting current for chromaticity correcting is added to other light emitting element corresponding to at least one of the other color tones in the pixel, comprising
15 a step in that the main current and the correcting current are controlled by pulse driving period.

14. A control method of an image display apparatus with light emitting elements corresponding to RGB of color tones disposed in each pixel comprising
a step in that, in light emission of each light emitting element L_i ($i = R, G, B$) based on image data D_i ($i = R, G, B$) in respective pixels, amount of light
20 emission $A_k + A'_k$ is controlled by the number of pulse driving or the ratio of frequency of reference clocks (widths of reference clock pulses), so as to add amount of light emission A'_k ($k \neq i$) of at least one of the other light emitting elements L_k ($k \neq i$) in the respective pixels based on amount of light emission A_i ($i = R, G, B$) of the light emitting element L_i to amount of light emission A_k ($k \neq i$) of
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the light emitting elements L_k based on image data D_k ($k \neq i$).

15. The image display apparatus according to claim 1, wherein, the light emitting elements are light emitting diodes.

16. The control method of an image display apparatus according to claim 8,
5 wherein, the light emitting elements are light emitting diodes.

17. The control method of an image display apparatus according to claim 9, wherein, the light emitting elements are light emitting diodes.

18. The image display apparatus according to claim 4, wherein, a driving period corresponding to one image frame is divided into three divided periods, wherein, a
10 pulse driving current for color tone corresponding to the light emitting element as the main currents is supplied in one of the three divided periods as a main displaying period, and pulse driving currents for color tones corresponding to the other color tones to control the amount of light emission for correcting chromaticity to be added as the correcting currents are supplied in the other two of the three
15 parts as color correcting periods, wherein, amount of light emission by the main current and the correcting currents is adjusted by controlling widths of reference clock pulses.

19. The image display apparatus according to claim 5, wherein, a driving period corresponding to one image frame is divided into three divided periods, wherein, a
20 pulse driving current for color tone corresponding to the light emitting element as the main currents is supplied in one of the three divided periods as a main displaying period, and pulse driving currents for color tones corresponding to the other color tones to control the amount of light emission for correcting chromaticity to be added as the correcting currents are supplied in the other two of the three
25 parts as color correcting periods, wherein, amount of light emission by the main

current and the correcting currents is adjusted by controlling widths of reference clock pulses.

20. The image display apparatus according to claim 6, wherein, a driving period corresponding to one image frame is divided into three divided periods, wherein, a pulse driving current for color tone corresponding to the light emitting element as the main currents is supplied in one of the three divided periods as a main displaying period, and pulse driving currents for color tones corresponding to the other color tones to control the amount of light emission for correcting chromaticity to be added as the correcting currents are supplied in the other two of the three parts as color correcting periods, wherein, amount of light emission by the main current and the correcting currents is adjusted by controlling widths of reference clock pulses.